

AMPEX

BROADCAST
COLOR CAMERA

BCC-10



A Camera Makes Pictures. A Great Camera Makes Great Pictures.

BCC-10: A Sure Way to Boost Your On-Air Look While Saving Time and Money.

- A new level of performance offering 54 db luminance signal-to-noise ratio using advanced signal processing techniques.
- Automatics with digital memory: auto white; auto black; auto iris; and full time auto centering.
- One inch (25mm) diode gun Plumbicon* pick-up tube with lower lag and high resolution.
- Digital remote control of all electronic functions.
- "Intelligent" controls that streamline operation and minimize operator errors.
- Diagnostic interface with camera automatics for positive feedback on camera status.
- Rugged, heavy-duty modular construction allowing superior maintenance access.
- Inherent electronic stability with auto centering
- Tilttable, rotatable viewfinder of modular construction, featuring adjustable hood.
- 7-second warmup time to stable broadcast quality picture.



BCC-10: The Great Color Camera... from Ampex.

Whether viewed from the electronic or mechanical side of its modern and balanced design, the BCC-10 color television camera from Ampex offers the most advantageous blend of high performance, error-free operating features and ease of maintenance. The BCC-10 symbolizes excellence in a broadcast camera for all applications.

As a complete camera system, the BCC-10 distinguishes itself by setting a new performance standard. Together with its high operating economy, the BCC-10 provides an array of convenience features which save time and reduce human error to a minimum. Superior in both basic design and in reliable high performance, the BCC-10 with its

high luminance signal-to-noise ratio (typically 54 db), delivers a noticeably better on-air look. At the same time, simplified setup and adjustment, and inherent electronic stability combine with wide open maintenance access for all around economy that accrues over a lifetime. The BCC-10 delivers what the professional demands.

Control Convenience With Digital Memories

The BCC-10 camera system includes a modular control panel and camera control unit (CCU). All camera electronic functions are fully remoted at the CCU. Optionally, a remote panel for control of all operating features may be incorporated. Digital memories are used to enhance the inherent stability of the BCC-10.

The operator is informed by the automatic system when and why a particular command cannot be completed.

Here's an example:

The operator attempts an auto white balance, but forgets the camera is capped. He touches the "AUTO WHT" button on the operating control panel, but the white balance sequence will not commence, as the command is illogical and will not be accepted.

If the camera is uncapped, the command is accepted and the aperture correction and paint controls are automatically switched off before the balancing sequence commences. If the automatics are out of correction range, the button remains lit and LEDs in the CCU card rack identify the problem. A successful balancing operation, on the other hand, causes the light to extinguish within one second.

The paint controls at the CCU or remote control panel are incorporated with an on/off "Instant Paint" feature which allows simplified control for creative special effects. Additionally the BCC-10 includes a "Black Stretch" feature which operates on luminance and brings out fine detail in shadow without a chroma noise increase.

Performance of the BCC-10 is topped off with a high resolution diode gun, 25mm Plumbicon* pickup tube as standard. Offering resolution and

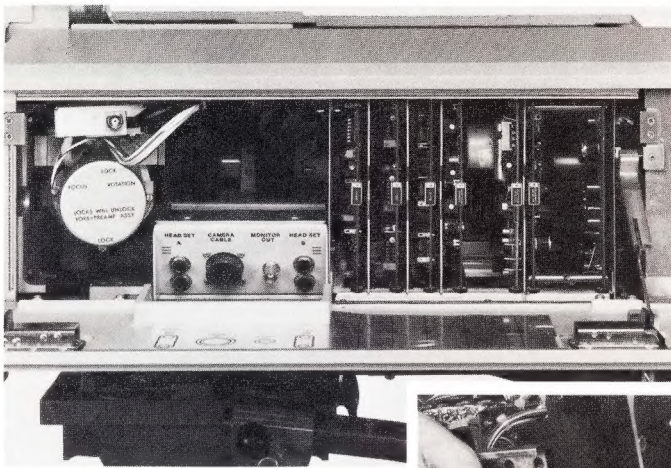
beam current of a higher order with less beam energy spread and lag, this type of tube also provides improved registration and geometry.

With optional Automatic Beam Control (ABC), the BCC-10 provides the high performance benefit so often needed just exactly **when** you need it. This feature of the BCC-10's electronics is aptly named because the ABC tube is activated through special circuitry only when excessive light conditions warrant it. The BCC-10 readily accepts, without modification, standard pickup tubes or diode gun tubes.

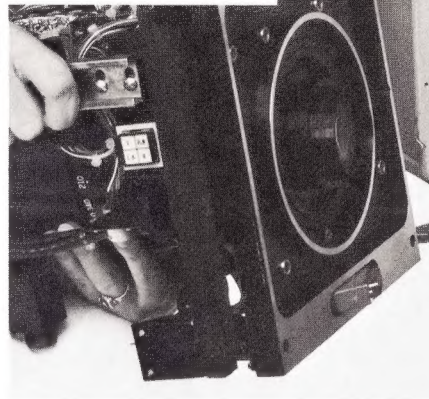
The BCC-10's digital multiplexing of the control information allows totally remote control of the camera's electronics through an inexpensive, lightweight 1/2" cable. It weighs only 13-1/2 pounds per hundred feet including connectors. A built-in test signal is used for frequency compensation. Timing correction is automatically compensated for up to the maximum 2400 foot cable length. Adjustable pulse delay allows system H-phase matching without external delay lines or the necessity of cutting cables to precise lengths.

The camera's intercom system utilizes the 10 kHz audio band width. An FM multiplexed interphone system provides clear communication which is inherently immune to crosstalk or cable losses.





Uncluttered interior provides ease of accessibility



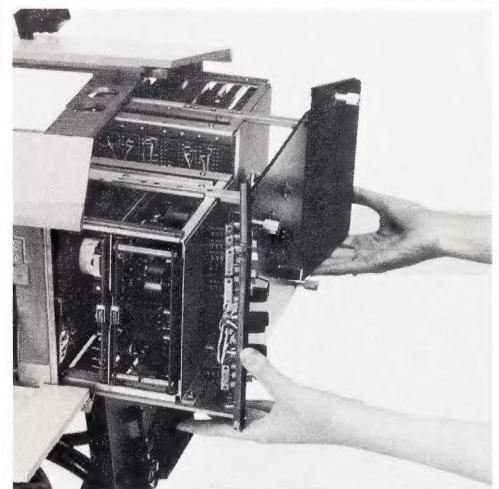
Hook-on mounting and two screws hold lens rigidly in place, but allow rapid, convenient assembly or disassembly.



The BCC-10: An Innovative Balance of Mechanical Design & Maintenance Ease.

The mechanical side of the BCC-10 matches its electronic sophistication. In fact, provision for rapid accessibility as well as handsomely rugged design is an inherent part of the BCC-10. The function-fitting form is evident in the camera's stable, low profile modular head. Machined from rugged aluminum castings, it allows total access to all head components and electronics. The strong housing also provides exceptionally safe and easy assembly, disassembly and transport of the camera.

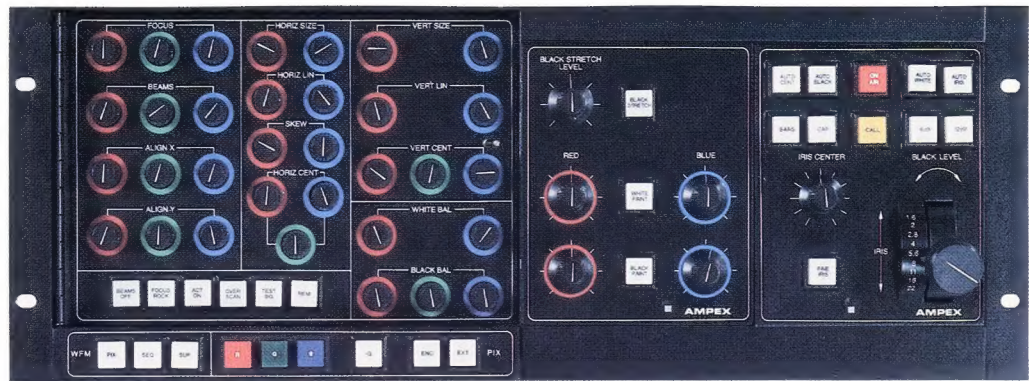
The BCC-10's pan and tilt viewfinder, like the camera head, offers a high degree of refinement in both operating ease and maintainability. With its special high-brightness flat-faced tube, the viewfinder tilts as well as rotates and employs an under-hood tally light and two screw removal of the complete assembly. This aids in maximum all-condition use and maintenance ease. The camera tally light also may be dimmed or turned off when desired. An outdoor viewfinder hood, most useful in high light conditions, is optional.



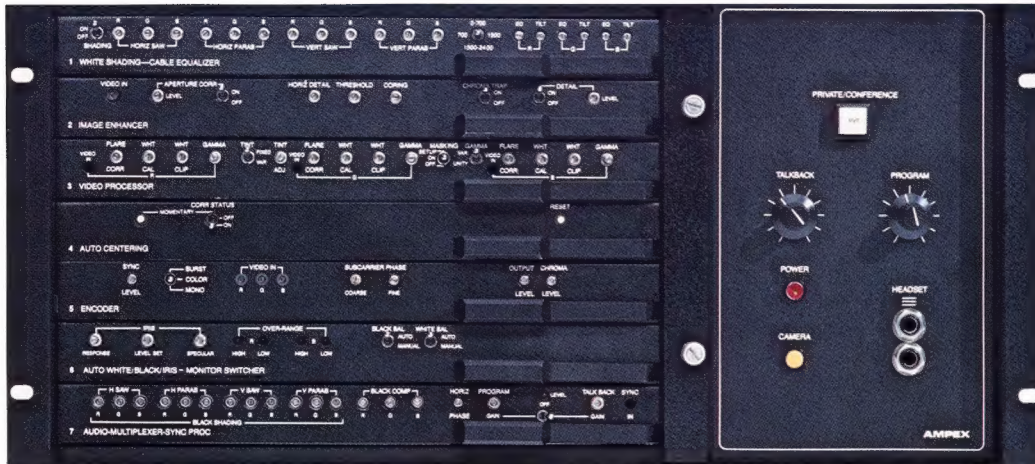
Card cage slides out easily for bench top maintenance.

Perhaps the high point of the camera's mechanical side is the precision of the machined, computer matched optical assembly. The rigid, one-piece, hook-on lens mount, employs simplified one point suspension as well as being light and dust-tight. The widest possible selection of lenses are available for the BCC-10. Over 25 different models from all manufacturers with zoom ranges from 10:1 to 42:1 may be fitted. The BCC-10 may be capped mechanically from the CCU plus the camera has a self-capping feature in the power-off state for fail-safe protection of the optics and pickup tubes.

Control panel



CCU



Remote control panel



Power supply

Wide open accessibility is a designed-in feature of the full BCC-10 camera system. Both the camera head and the viewfinder as well as the CCU are of modular design. The head permits complete removal of the card rack and is easily given a total on-bench circuitry test under operational conditions using extender cables. Just four screws are used to release the entire electronics card rack.

For added maintenance ease, the BCC-10 provides its own Sin²T window and grey scale test signal for routine cable equalization and gamma tracking alignment. External test equipment is unnecessary for most maintenance and setup operations. With inherently stable electronics and circuit designs meeting temperature specifications from -15°C to +45°C, the camera is a maintenance dream come true.

BCC-10 SPECIFICATIONS

POWER

95-130 V rms or 190-260 V rms.
47-63 Hz @ \approx 500 VA

SCANS

EIA 525/60 fields/s
CCIR 625/50 fields/s

COLOR STANDARDS

NTSC, PAL/I/B, PAL-M, SECAM

INPUTS

EIA/CCIR composite sync and subcarrier and 7.8 kHz square wave or PAL-P pulse

OUTPUTS

2—75 ohm video outputs, one composite and one selectable composite/non-composite. Separate R-G-B outputs.

TYPICAL PERFORMANCE

SENSITIVITY

Full output obtained under following conditions:

Zero added gain: 75 fc, 60% reflectance chart @ f/2.8

12 dB added gain: 6 fc, 60% reflectance chart @ f/1.6

SIGNAL-TO-NOISE RATIO

54 dB—NTSC (4.2 MHz bandwidth)

52 dB—PAL (5.5 MHz bandwidth)

—luminance channel, zero added gain, unity gamma, zero enhancement

ENVIRONMENTAL

temperature range

camera -15°C to $+45^{\circ}\text{C}$

CCU 0°C to $+45^{\circ}\text{C}$

STABILITY

CAMERA HEAD: All controls stable over -15°C to $+45^{\circ}\text{C}$ (auto centering on) after 10 minute warmup period.

CCU: All controls stable over 0°C to $+45^{\circ}\text{C}$ after 10 minute warmup period.

REGISTRATION ACCURACY

Zone 1 (circle equal to 0.8 picture height) .05%

Zone 2 (circle equal to picture width) 0.1%

Zone 3 (elsewhere) 0.2%

GEOMETRY

Zone 1 less than 0.25%

Zone 2 less than 0.5%

Zone 3 less than 1.0%

Registration accuracy and geometry specifications do not include lens deviations and are measured with average Plumbicon tubes.

MODULATION DEPTH

In the G signal, when transmitting a 5 MHz bar pattern at optimum setting in center of screen without aperture correction $>40\%$ (depending on tubes) with aperture correction adjustable to 100%.

RESOLUTION

Limiting 650 lines (depending on Plumbicon tube)

VIEWFINDER

Brightness: 200 foot lamberts (685 NIT) high frequency peaking, switchable

DIMENSIONS

	Length	Width	Height	Weight
Camera Head	560mm (22 in)	483mm (19 in)	280mm (11 in)	36kg (79 lb)
Viewfinder	280mm (11 in)	222mm (8.75 in)	178mm (7 in)	5.5kg (16 lb)
	Depth	Width	Height	Weight
CCU	500mm (19.7 in)	483mm (19.0 in)	222mm (8.75 in)	18kg (39.5 lb)
Power Supply	500mm (19.7 in)	483mm (19.0 in)	133mm (5.25 in)	20.1kg (44.2 lb)
Control Panel	116mm (4.6 in)	483mm (19.0 in)	178mm (7.0 in)	6.4kg (14 lb)

Ampex reserves the right to make product and specification changes at any time without notice.



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